

### R E M A R K S

Careful review and examination of the subject application are noted and appreciated.

### SUPPORT FOR CLAIM AMENDMENTS

Support for the amendments to the claims can be found in the drawings as originally filed, for example, FIG. 1 and in the claims, for example, claims 5, 6 and 8. As such, no new matter has been added.

### CLAIM REJECTIONS UNDER 35 U.S.C. §103

The rejection of claims 1-20 under 35 U.S.C. §103 as being unpatentable over Foster et al. (U.S. Patent No. 5,665,640; hereinafter Foster) in view of Ishikawa et al. (U.S. Patent No. 6,143,078; hereinafter Ishikawa) and Curtis (U.S. Patent No. 4,328,068) is respectfully traversed and should be withdrawn.

In contrast to the cited references, the presently claimed invention (claim 1) provides a one-piece channel sleeve for a plasma processing chamber comprising an outer portion configured for insertion into an aperture through a wall of the plasma processing chamber, the outer portion consisting of an electrically insulative material and having dimensions effective to prevent or inhibit plasma arcing to an electrically conductive surface of the wall of the plasma processing chamber exposed by the aperture

through the wall of the plasma processing chamber, the outer portion further comprising (i) a flange section having a dimension greater than a corresponding dimension of the aperture, such that the flange section contacts a portion of an outside surface of the wall surrounding the aperture when the channel sleeve is inserted in the aperture through the wall of the plasma processing chamber, **(ii) a lower section having a shape and dimensions approximately the same as a corresponding shape and dimensions of the aperture, where the lower section is configured to fit securely into the aperture** and (iii) an inner opening communicating through the electrically insulative material between a bottom and a top of the outer portion, where the inner opening transfers a spectroscopic endpoint detection signal. Claims 2-9 recite similar limitations or incorporate claim 1 by reference. The cited references, alone or in combination, do not teach or suggest each and every element of the presently claimed invention. As such, the rejection does not appear to be sustainable and should be withdrawn.

Assuming, *arguendo*, (a) the space within the cylinder 238 in FIG. 2B of Foster is similar to the presently claimed aperture and (b) a person of ordinary skill in the art would select Foster and Ishikawa for combination and modify the isolator sleeve 271 of Foster based upon Ishikawa to include a flange portion (as suggested by the Examiner (i) in a telephone interview, summarized below, and (ii) in section 2 on page 2 of the Office Action and for

which Applicants' representative does not necessarily agree), the combination still fails to teach or suggest **the lower section having a shape and dimensions approximately the same as a corresponding shape and dimensions of the aperture, where the lower section is configured to fit securely into the aperture**, as presently claimed. Specifically, Foster does not teach or suggest that the portion 271 (identified on page 2, line 9 of the Office Action as corresponding to the presently claimed outer portion) either **has a shape and dimensions approximately the same as a corresponding shape and dimensions of the aperture or is configured to fit securely into the aperture**, as presently claimed. In particular, the portions 270, 271 and 256 are shown in the center of the space within the cylinder 238 (i.e., the alleged aperture). Furthermore, Foster shows structures described as a plurality of gas halos or rings 262 and 264 within the space between the wall of the cylinder 238 and the isolator sleeve 271, which "introduce the **necessary** plasma and reactant gases into cylinder 238" (column 18, lines 21-24 of Foster). Since (i) there is space between the wall of the cylinder 238 and the structures 270, 271 and 256 and (ii) the space is occupied by a plurality of gas halos or rings 262 and 264 which introduce the **necessary** plasma and reactant gases into cylinder 238, it follows that Foster does not teach or suggest either the isolator sleeve 271 having a shape and dimensions approximately the same as a corresponding shape and dimensions of

the aperture or the isolator sleeve 271 being configured to fit securely into the aperture, as presently claimed. Therefore, the Office Action fails to meet the Office's burden to factually establish the *prima facie* case for a conclusion of obviousness. As such, the rejection does not appear to be sustainable and the rejection should be withdrawn.

Furthermore, neither Foster nor Ishikawa provide the motivation or suggestion for modifying the isolator sleeve 271 of Foster to have the shape and dimensions approximately the same as the shape and dimensions of the space within the cylinder 238. Specifically, modification of the isolator sleeve 271 to have the shape and dimensions approximately the same as the shape and dimensions of the space within the cylinder 238 would prevent the inclusion of the plurality of gas halos or rings 262 and 264 within the space between the wall of the cylinder 238 and the isolator sleeve 271, which "introduce the **necessary** plasma and reactant gases into cylinder 238." Since the plurality of gas halos or rings 262 and 264, which introduce the **necessary** plasma and reactant gases into cylinder 238, would be eliminated within the space between the wall of the cylinder 238 and the isolator sleeve 271, such a modification would appear (i) to change the principle of operation of Foster and (ii) to render the space within the cylinder 238 of Foster unsuitable for its intended purpose. If a proposed modification would render the prior art invention being

modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification (MPEP §2143.01(V)). If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious (MPEP §2143.01(VI)). As such, the rejection does not appear to be sustainable and the rejection should be withdrawn.

With Respect to claim 13, the Office Action states:

**Foster does not teach:** . . . viii. The channel sleeve (item 58; Figure 2; col. 18 lines 33-59; items 270-272 and conduit 256; Figure 2B; col. 18, lines 33-59) for a plasma processing chamber (item 40; Figure 2) according to claim 12 wherein said channel sleeve (item 58; Figure 2; col. 18 lines 33-59; items 270-272 and conduit 256; Figure 2B; col. 18, lines 33-59) for a plasma processing chamber (item 40; Figure 2) applies a predetermined amount of pressure against an inner wall (232; Figure 4B) of said aperture ("within cylinder 238"; col. 18, line 53), as claimed by claim 13 (see last two lines on page 9 through page 10, line 5 of the Office Action, underlining by Examiner, bold by Applicants' representative).

The Office Action does not explain how the deficiency of Foster is cured by Ishikawa. Therefore, the Office Action fails to meet the Office's burden to factually establish the *prima facie* case for a conclusion of obviousness with respect to claim 13. As such, the rejection of claim 13 does not appear to be sustainable and the rejection should be withdrawn.

With respect to claim 15, the Office Action states:

**Foster does not teach:** . . . x. The channel sleeve (item 58; Figure 2; col. 18 lines 33-59; items 270-272 and conduit 256; Figure 2B; col. 18, lines 33-59) for a plasma processing chamber (item 40; Figure 2) according to claim 14 wherein **said first length is greater than a length of said aperture** ("within cylinder 238"; col. 18, line 53), **as claimed by claim 15** (see page 10, lines 10-13 of the Office Action, underlining by Examiner, bold by Applicants' representative).

The Office Action does not explain how the deficiency of Foster is cured by Ishikawa. Therefore, the Office Action fails to meet the Office's burden to factually establish the *prima facie* case for a conclusion of obviousness with respect to claim 15. As such, the rejection of claim 15 does not appear to be sustainable and the rejection should be withdrawn.

Furthermore, neither Foster nor Ishikawa appear to provide the motivation or suggestion for modifying the isolator sleeve 271 of Foster to have **said first length is greater than a length of said aperture**, as presently claimed. Specifically, modification of the isolator sleeve 271 to have a length that is greater than the length of the space within the cylinder 238 would displace and disconnect the showerhead/electrode 222 from the cylinder 238. Such a modification would appear (i) to change the principle of operation of Foster and/or (ii) to render the showerhead/electrode 222 of Foster unsatisfactory for its intended purpose. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose,

then there is no suggestion or motivation to make the proposed modification (MPEP §2143.01(V)). As such, the rejection of claim 15 does not appear to be sustainable and the rejection should be withdrawn.

Claims 10-20 depend, directly or indirectly, from either claim 1 or claim 9 which are believed to be allowable. As such, the rejections do not appear to be sustainable and should be withdrawn.

#### **SUMMARY OF TELEPHONE INTERVIEW**

In a telephone interview on August 23, 2006, Applicants' representative, Robert Miller and Examiner Zervigon discussed the presently pending claims, the Office Action mailed August 11, 2006 and the cited references Foster (U.S. 6,143,078) and Ishikawa (U.S. 5,665,640). Examiner Zervigon confirmed that the amendments and new FIG. 3 filed on May 26, 2006 were entered and acceptable. Examiner Zervigon stated that Ishikawa was used for teaching the addition of a flange to the isolator sleeve 271 of Foster to obtain the one piece outer portion, as presently claimed. Examiner Zervigon agreed with Applicants' representative that Ishikawa does not teach a sleeve traversing the chamber wall or the flange section contacting an outside surface of the chamber wall. No agreement was reached with respect to the claims.

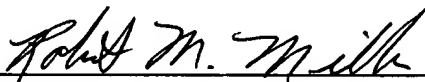
Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

The Examiner is respectfully invited to call the Applicants' representative should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge our office Account No. 50-0541.

Respectfully submitted,

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